

**WHAT IS CLAIMED IS:**

1. An optical waveguide module comprising  
an optical waveguide component having an auxiliary  
5 connection member connected to an end of an optical waveguide  
chip, and

at least one array member for attaching an end of at  
least one optical fiber to a connection member to be  
connected to said auxiliary connection member, wherein

10 said optical waveguide component and said array member  
are connected to each other via said auxiliary connection  
member and said connection member, and

an optical waveguide exposed from the end of said  
optical waveguide chip is in direct contact with a core of  
15 said optical fiber exposed from an end of said array member.

2. An optical waveguide module comprising  
an optical waveguide component having an auxiliary  
connection member connected to an end of an optical waveguide  
chip, and

20 at least one array member for attaching an end of at  
least one optical fiber to a connection member to be  
connected to said auxiliary connection member, wherein

said optical waveguide component and said array member  
are connected to each other via said auxiliary connection  
25 member and said connection member,

a presser member is disposed to press at least one of  
said optical waveguide chip and said optical fiber in a  
direction of connection, and

an optical waveguide exposed from the end of said  
30 optical waveguide chip is in direct contact with a core of  
said optical fiber exposed from an end of said array member.

3. The optical waveguide module according to claim 2,  
wherein

said presser member is disposed across the connection

between said optical waveguide chip and said optical fiber.

4. The optical waveguide module according to claim 2, wherein

said presser member is provided on said array member.

5 5. The optical waveguide module according to claim 2, wherein

said array member allows a region around the core including the core of said optical fiber to project from an end face of said connection member.

10 6. The optical waveguide module according to claim 5, wherein

said optical fiber has an outer peripheral edge being cut away.

15 7. The optical waveguide module according to claim 5, wherein

said optical fiber has said region around the core being reduced in diameter relative to a diameter of a cladding and/or a center of said region around the core is made eccentric with respect to a center of an outer periphery of said cladding, said region around the core being projected in each case.

20 8. The optical waveguide module according to claim 6, wherein

25 said optical fiber has said region around the core being reduced in diameter relative to a diameter of a cladding and/or a center of said region around the core is made eccentric with respect to a center of an outer periphery of said cladding, said region around the core being projected in each case.

30 9. The optical waveguide module according to claim 5, wherein

said optical waveguide component and said array member are protruded so as to prevent said projecting optical fiber from contacting with said auxiliary connection member.

10. The optical waveguide module according to claim 6,  
wherein

5 said optical waveguide component and said array member  
are protruded so as to prevent said projecting optical fiber  
from contacting with said auxiliary connection member.

11. The optical waveguide module according to claim 5,  
wherein

10 a glass layer is interposed in between said auxiliary  
connection member and said optical waveguide chip so as to  
prevent the region around the core of said optical fiber from  
contacting with said auxiliary connection member.

12. The optical waveguide module according to claim 6,  
wherein

15 a glass layer is interposed in between said auxiliary  
connection member and said optical waveguide chip so as to  
prevent the region around the core of said optical fiber from  
contacting with said auxiliary connection member.

13. The optical waveguide module according to claim 2,  
wherein

20 said optical waveguide component is formed so as to  
allow a region around said optical waveguide including said  
optical waveguide to project from the other part.

14. The optical waveguide module according to claim 2,  
wherein

25 said optical waveguide component has said auxiliary  
connection member bonded thereto by means of an adhesive  
layer 20 $\mu$ m or less in thickness.

15. The optical waveguide module according to claim 2,  
wherein

30 in the connection between said optical waveguide  
component and said array member, an optical signal passing  
through where the optical waveguide formed in said optical  
waveguide component is in direct contact with the core of  
said optical fiber has a maximum power of 300mW or more per

port.

16. An optical waveguide module comprising  
a first array member with a plurality of optical fibers  
having ends attached to a first connection member,

5 a second array member with at least one optical fiber  
having an end attached to a second connection member, and

an optical waveguide chip having an input and output  
end face and an optical waveguide for multiplexing a  
plurality of optical signals having different wavelengths  
10 inputted from a plurality of input ports to output a  
resulting optical signal from at least one output port,

said optical waveguide module wherein

said first array member is bonded with an adhesive to  
said input end face of said optical waveguide chip,

15 an auxiliary connection member is attached to said  
output end face of said optical waveguide chip,

said second connection member is connected to said  
auxiliary connection member,

said second array member is coupled to said output end  
20 face of said optical waveguide chip via said second  
connection member and said auxiliary connection member,

a presser member for pressing said auxiliary connection  
member and said second array member in a direction of  
connection is disposed across said auxiliary connection  
25 member and said second array member, and

a core of said optical waveguide exposed from said  
output end face of said optical waveguide chip is in direct  
contact with a core of said optical fiber exposed from an end  
of said second array member.

30 17. The optical waveguide module according to claim 16,  
wherein

said presser member is disposed across connections  
between said optical waveguide chip and said first array  
member and between said optical waveguide chip and said

second array member.

18. The optical waveguide module according to claim 16,  
wherein

5 an optical signal passing through where the core of  
said optical waveguide is in direct contact with the core of  
said optical fiber has a maximum power of 300mW or more per  
port.

19. The optical waveguide module according to claim 16,  
wherein

10 an optical signal passing through where the core of  
said optical waveguide is in direct contact with the core of  
said optical fiber has a maximum power of 300mW or more per  
port at said input end face, and

15 an optical signal passing through where the core of  
said optical waveguide is in direct contact with the core of  
said optical fiber has a maximum power of 300mW or more per  
port at said output end face.